Amendments to the Claims

1. (Original) An apparatus for processing a digital audio signal having a sequence of samples, the apparatus comprising:

first means for detecting maximal values and minimal values represented by samples of the digital audio signal;

second means for detecting a number of samples from a sample representing a minimal value detected by the first means to a maximal-value-corresponding sample representing a maximal value detected by the first means;

third means for detecting a number of samples from a sample representing a maximal value detected by the first means to a minimal-value-corresponding sample representing a minimal value detected by the first means;

fourth means for calculating a first difference between the maximal value represented by the maximal-value-corresponding sample and a value represented by a sample immediately preceding the maximal-value-corresponding sample;

fifth means for calculating a second difference between the minimal value represented by the minimal-value-corresponding sample and a value represented by a sample immediately preceding the minimal-value-corresponding sample;

sixth means for calculating a first coefficient from the sample number detected by the second means;

seventh means for calculating a second coefficient from the sample number detected by the third means;

eighth means for multiplying the first coefficient and the first difference to generate a first multiplication result;

ninth means for multiplying the second coefficient and the second difference to generate a second multiplication result;

tenth means for incrementing the maximal value, represented by the maximal-value-corresponding sample, by the first multiplication result to modify the maximal-value-corresponding sample; and

eleventh means for decrementing the minimal value, represented by the minimal-value-corresponding sample, by the second multiplication result to modify the minimal-value corresponding sample.

2. (Original) An apparatus as recited in claim 1, further comprising:

twelfth means for calculating a third coefficient from the sample number detected by the second means;

thirteenth means for calculating a fourth coefficient from the sample number detected by the third means;

fourteenth means for multiplying the third coefficient and the first difference to generate a third multiplication result;

fifteenth means for multiplying the fourth coefficient and the second difference to generate a fourth multiplication result;

sixteenth means for incrementing a value of a sample near the maximal-value-corresponding sample by the third multiplication result to modify the sample near the maximal-value-corresponding sample; and

seventeenth means for decrementing a value of a sample near the minimal-value-corresponding sample by the fourth multiplication result to modify the sample near the minimal-value-corresponding sample.

3. (Original) An apparatus as recited in claim 1, wherein the first coefficient increases as the sample number detected by the second means decreases, and the second coefficient increases as the sample number detected by the third means decreases.

4. (Currently amended) A ~~recording~~ computer readable medium storing a computer program for processing a digital audio signal having a sequence of samples, the computer program comprising the steps of:

(1) detecting maximal values and minimal values represented by samples of the digital audio signal;

(2) detecting a number of samples from a sample representing a minimal value detected by the step (1) to a maximal-value-corresponding sample representing a maximal value detected by the step (1) ;

(3) detecting a number of samples from a sample representing a maximal value detected by the step (1) to a minimal-value-corresponding sample representing a minimal value detected by the step (1);

(4) calculating a first difference between the maximal value represented by the maximal-value-corresponding sample and a value represented by a sample immediately preceding the maximal-value-corresponding sample;

(5) calculating a second difference between the minimal value represented by the minimal-value-corresponding sample and a value represented by a sample immediately preceding the minimal-value-corresponding sample;

(6) calculating a first coefficient from the sample number detected by the step (2);

(7) calculating a second coefficient from the sample number detected by the step (3);

(8) multiplying the first coefficient and the first difference to generate a first multiplication result;

(9) multiplying the second coefficient and the second difference to generate a second multiplication result;

(10) incrementing the maximal value, represented by the maximal-value-corresponding sample, by the first multiplication result to modify the maximal-value-corresponding sample; and

(11) decrementing the minimal value, represented by the minimal-value-corresponding sample, by the second multiplication result to modify the minimal-value-corresponding sample.

5. (Currently amended) A ~~recording~~ computer readable medium as recited in claim 4, wherein the computer program further comprises the steps of:

(12) calculating a third coefficient from the sample number detected by the step (2);

(13) calculating a fourth coefficient from the sample number detected by the step (3);

(14) multiplying the third coefficient and the first difference to generate a third multiplication result;

(15) multiplying the fourth coefficient and the second difference to generate a fourth multiplication result;

(16) incrementing a value of a sample near the maximal-value-corresponding sample by the third multiplication result to modify the sample near the maximal-value-corresponding sample; and

(17) decrementing a value of a sample near the minimal-value-corresponding sample by the fourth multiplication result to modify the sample near the minimal-value-corresponding sample.

6. (Currently amended) A ~~recording~~ computer readable medium as recited in claim 4, wherein the first coefficient increases as the sample number detected by the step (2) decreases, and the second coefficient increases as the sample number detected by the step (3) decreases.

7-8. (Canceled)

9. (Original) A method of processing a digital audio signal having a sequence of samples, the method comprising the steps of:

(1) detecting maximal values and minimal values represented by samples of the digital audio signal;

(2) detecting a number of samples from a sample representing a minimal value detected by the step (1) to a maximal-value-corresponding sample representing a maximal value detected by the step (1);

(3) detecting a number of samples from a sample representing a maximal value detected by the step (1) to a minimal-value-corresponding sample representing a minimal value detected by the step (1);

(4) calculating a first difference between the maximal value represented by the maximal-value-corresponding sample and a value represented by a sample immediately preceding the maximal-value-corresponding sample;

(5) calculating a second difference between the minimal value represented by the minimal-value-corresponding sample and a value represented by a sample immediately preceding the minimal-value-corresponding sample;

(6) calculating a first coefficient from the sample number detected by the step (2);

(7) calculating a second coefficient from the sample number detected by the step (3);

(8) multiplying the first coefficient and the first difference to generate a first multiplication result;

(9) multiplying the second coefficient and the second difference to generate a second multiplication result;

(10) incrementing the maximal value, represented by the maximal-value-corresponding sample, by the first multiplication result to modify the maximal-value-corresponding sample; and

(11) decrementing the minimal value, represented by the minimal-value-corresponding sample, by the second multiplication result to modify the minimal-value-corresponding sample.

10. (Original) A method as recited in claim 9, further comprising the steps of:

(12) calculating a third coefficient from the sample number detected by the step (2);

(13) calculating a fourth coefficient from the sample number detected by the step (3);

(14) multiplying the third coefficient and the first difference to generate a third multiplication result;

(15) multiplying the fourth coefficient and the second difference to generate a fourth multiplication result;

(16) incrementing a value of a sample near the maximal-value-corresponding sample by the third multiplication result to modify the sample near the maximal-value-corresponding sample; and

(17) decrementing a value of a sample near the minimal-value-corresponding sample by the fourth multiplication result to modify the sample near the minimal-value-corresponding sample.

11. (Original) A method as recited in claim 9, wherein the first coefficient increases as the sample number detected by the step (2) decreases, and the second coefficient increases as the sample number detected by the step (3) decreases.

12. (Canceled)